

WASHINGTON

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Introduction

Distribution

The cougar or mountain lion (Felis concolor) occurs throughout Washington except in the dry, open steppe and shrub-steppe vegetative areas east of the Cascade Mountains. The mountain lion is closely associated with coniferous forests which in eastern Washington are generally restricted to the more mesic mountain slopes and highlands. Dependent upon precipitation, dominant species include Douglas fir (Pseudotsuga menziesii), grand fir (Abies grandis), western larch (Larix occidentalis), and Ponderosa pine (Pinus ponderosa).

Western Washington environments are forest dominated where natural succession usually proceeds to western hemlock (Tsuga heterophylla) and western red cedar (Thuja plicata). Much of the forested land has been logged and is therefore in various stages of secondary succession.

Major prey species include mule deer (Odocoileus hemionus hemionus), whitetail deer (O. virginianus) and elk (Cervus elaphus nelsoni) east of the Cascades and blacktail deer (O. h. columbianus) and elk (both C. e. n. and C. e. roosevelti) to the west. Two other cat species occur in the state - bobcat (F. rufus) and lynx (F. lynx).

Present mountain lion populations are greatest in areas of considerable coniferous forests and available prey. This would include the Cascade Mountains, Okanogan Highlands, northeastern quarter of the state and the Olympic Peninsula. A few mountain lions occur in the Blue Mountains near the southeastern corner of the state.

Resident mountain lions have been eliminated in the densely populated areas of the Puget Sound trough. Similarly, animals are greatly restricted in areas of western Washington by intensive timber management practices.

Historical Perspective

Prior to the formation of the Washington Game Department in 1933, hit and miss bounties were paid by individual counties for mountain lions. In 1933, the lion was considered and classified as a predator with a 25 dollar bounty paid from 1935 to 1937; a 50 dollar bounty paid from 1937 to 1949; and a 75 dollar bounty paid from 1949 to 1960. Although the mountain lion remained classified as a predator, the bounty was discontinued in 1961.

In May of 1966 Game Commission action classified the mountain lion as a game animal and consequently various seasons (Tables 1 and 2) and regulations were enacted to facilitate management. Basically, opportunity to harvest mountain lions occurs in October and November for the opportunistic deer and elk hunter (only deer hunters in eastern Washington) and mid-December to mid-January. Pursuit seasons occur during the months of August and September for hound hunters in western Washington while only during September on the eastside.

Harvest Information

A valid hunting license and species tag are required to hunt (including pursuit season) mountain lion. A hound stamp is necessary if dogs are used. Any nonresident who hunts for cougar or bobcat during either the pursuit only or open seasons is required to obtain a permit from the Department at least 14 days prior to hunting. The bag limit is set at one cougar during the 1984-85 hunting season, provided that it is unlawful to kill or possess spotted mountain lion kittens or adults accompanied by spotted kittens.

A dual mandatory reporting system has been established. Each successful hunter must fill out and return to the Department within 10 days after kill a harvest report card which is issued to him when he purchases his species tag. In addition, within 10 days of killing a mountain lion, the hunter must have the pelt tagged by a Department representative. When the tag is affixed to the hide by the Department representative a mountain lion hunting report form is completed (Figure 1).

Table 1. Western Washington Mountain Lion Hunting Season.

| Year | Month | | | | | | | | | | | |
|-----------|-------|------|-------|------|------|--------|---------|---------|-------|-------|-----|--------|
| | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | March | April | May | June |
| 1960-1961 | x | | | | | | | | | | | x |
| 1961-1962 | x | | | | | | | | | | | x |
| 1962-1963 | x | | | | | | | | | | | x |
| 1963-1964 | x | | | | | | | | | | | x |
| 1964-1965 | x | | | | | | | | | | | x |
| 1965-1966 | x | | | | | | | | | | | x |
| 1966-1967 | x | | | | | | | | | | | x |
| 1967-1968 | x | | | | | | | | | | | x |
| 1968-1969 | x | | | | | | | | | | | x |
| 1969-1970 | x | | | | | | | | | | | x |
| 1970-1971 | x | | | | | | x 1-14 | | | | | x |
| 1971-1972 | x | | | | | | x 1-16 | | | | x | x |
| 1972-1973 | x | | | | | | x 1-14 | | | | | x |
| 1973-1974 | | x | | | | | x 1-15 | | | | | x |
| 1974-1975 | | x | | | | | x 1-15 | | | | | x |
| 1975-1976 | | x | | | | | x 1-15 | | | | | x |
| 1976-1977 | | x | | | | | x 1-15 | | | | | x |
| 1977-1978 | | | | | | x10-15 | x 1-15 | | | | | x |
| 1978-1979 | | | | | | x10-14 | x | | | | | x |
| 1979-1980 | | | | | | x10-13 | x 11-25 | x 12-15 | | | | x 1-20 |
| 1980-1981 | | | | | | x10-11 | x 11-19 | x 12-13 | | | | x 1-18 |
| 1981-1982 | | | | | | x10-10 | x 11-17 | x 12-12 | | | | x 1-17 |
| 1982-1983 | | | | | | x10-9 | x 11-21 | x 12-11 | | | | x 1-16 |
| 1983-1984 | | | | | | x10-15 | x 12-10 | | | | | x 1-15 |

Table 2. Eastern Washington Mountain Lion Hunting Season.

| Year | Month | | | | | | | | | | | |
|-----------|-------|------|-------|------|------|--------|---------|---------|-------|-------|-----|--------|
| | July | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | March | April | May | June |
| 1960-1961 | x | | | | | | | | | | | x |
| 1961-1962 | x | | | | | | | | | | | x |
| 1962-1963 | x | | | | | | | | | | | x |
| 1963-1964 | x | | | | | | | | | | | x |
| 1964-1965 | x | | | | | | | | | | | x |
| 1965-1966 | x | | | | | | | | | | | x |
| 1966-1967 | x | | | | | | | | | | | x |
| 1967-1968 | x | | | | | | x | | | | | x |
| 1968-1969 | x | | | | | | x | | | | | x |
| 1969-1970 | x | | | | | | x | | | | | x |
| 1970-1971 | x | | | | | | | | | | | x |
| 1971-1972 | x | | | | | | x 1-14 | | | | | x |
| 1972-1973 | x | | | | | | x 1-16 | | | | | x |
| 1973-1974 | | | | | | | x 1-14 | | | | | x |
| 1974-1975 | | x | | | | | x 1-15 | | | | | x |
| 1975-1976 | | x | | | | | x 1-15 | | | | | x |
| 1976-1977 | | x | | | | | x 1-15 | | | | | x |
| 1977-1978 | | | | | | | x 1-15 | | | | | x |
| 1978-1979 | | | | | | x10-15 | x 1-15 | | | | | x |
| 1979-1980 | | | | | | x10-14 | x | | | | | x |
| 1980-1981 | | | | | | x10-13 | x 11-25 | x 12-15 | | | | x 1-15 |
| 1981-1982 | | | | | | x10-11 | x | x 12-13 | | | | x 1-15 |
| 1982-1983 | | | | | | x10-10 | x | x 12-12 | | | | x 1-15 |
| 1983-1984 | | | | | | x10-9 | x | x 12-11 | | | | x 1-15 |
| | | | | | | x10-15 | x | x 12-12 | | | | x 1-15 |

| COUGAR HUNTING REPORT | | |
|---|------------------------|----------------------------|
| (Copies: Olympic Office, White; Hunter, Yellow; Regional Office, Pink). | | |
| 1. Hunter who killed cougar: | | |
| _____ | | _____ |
| <small>(Name - Please Print)</small> | | <small>(Phone No.)</small> |
| _____ | | |
| <small>(Mailing Address)</small> | | |
| _____ | _____ | _____ |
| <small>(City)</small> | <small>(State)</small> | <small>(Zip)</small> |
| 2. Date of Kill: _____ | | |
| <small>(Month)</small> | <small>(Day)</small> | <small>(Year)</small> |
| 3. Area where killed: _____ | | |
| <small>(County, State)</small> | | |
| _____ | | |
| <small>(Local Area/Neighborhood)</small> | | |
| 4. Cougar Tag Number: _____ | | |
| 5. Non-Resident Permit Number: _____ | | |
| 6. Cougar Sex: Male <input type="checkbox"/> Female <input type="checkbox"/> | | |
| 7. Estimated Weight: _____ | | |
| 8. Were dogs used: Yes <input type="checkbox"/> No <input type="checkbox"/> | | |
| If yes, whose dogs: _____ | | |
| <small>(Name)</small> | | |
| _____ | | |
| <small>(Mailing Address)</small> | | |
| _____ | _____ | _____ |
| <small>(City)</small> | <small>(State)</small> | <small>(Zip)</small> |
| 9. Was hunter hunting specifically for cougar? Yes <input type="checkbox"/> No <input type="checkbox"/> | | |
| If not, what was being hunted? _____ | | |
| 10. Recorded by: _____ | | |

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Rev. 1973

Figure 1. Cougar Hunting Report.

The mountain lion hunting report form was initiated in 1973. Consequently, detailed harvest information is available for the last 12 years. Table 3 depicts harvest estimates and the means by which these figures were calculated. Harvest estimates are based on the number of mountain lion hunting reports submitted expanded by a compliance factor. This factor is determined by comparing the reports received to lions reported killed on the Department's annual game harvest questionnaire.

Actual harvest has averaged 150 lions per year for the last 12 years. Harvest has declined over this time period and is reflective of lion populations and hunting regulations which have become more restrictive. Compliance rates for hunters submitting mandatory reports has increased from 42% in the beginning to nearly 100%. It is doubtful if total compliance can consistently be obtained as illegal harvest occurs and not all collected information reaches its destination in a usable fashion.

Table 3. Estimated Mountain Lion Harvest in Washington, 1973 - 1985.

| Season | Cougar Kill Reported on Game Harvest Questionnaire | Number of Hunting Reports Received from those Reported on Questionnaire | Percent of Hunting Reports Received | Expansion Factor | Hunting Reports Received | Estimated Statewide Harvest* |
|---------|--|---|-------------------------------------|------------------|--------------------------|------------------------------|
| 1973-74 | - | - | -- | 2.4** | 73 | 180 |
| 1974-75 | 12 | 5 | 42 | 2.4(n=1yr.) | 92 | 220 |
| 1975-76 | 11 | 5 | 45 | 2.3(n=2yr.) | 122 | 280 |
| 1976-77 | 10 | 5 | 50 | 2.2(n=3yr.) | 86 | 190 |
| 1977-78 | 6 | 5 | 83 | 2.0(n=4yr.) | 79 | 160 |
| 1978-79 | 9 | 4 | 44 | 2.0(n=5yr.) | 76 | 150 |
| 1979-80 | 5 | 5 | 100 | 1.7(n=5yr.)*** | 89 | 150 |
| 1980-81 | 4 | 3 | 75 | 1.5(n=5yr.) | 42 | 60 |
| 1981-82 | 6 | 4 | 67 | 1.4(n=5yr.) | 95 | 130 |
| 1982-83 | 6 | 4 | 67 | 1.3(n=5yr.) | 72 | 90 |
| 1983-84 | 8 | 8 | 100 | 1.2(n=5yr.) | 70 | 80 |
| 1984-85 | 7 | 5 | 71 | 1.3(n=5yr.) | 88 | 120 |
| Total | | | | | | 1810 |

* rounded to nearest 10

** used first questionnaire year for expansion factor

*** previous 5 year average used from this date forward

Table 4. Distribution of Mountain Lion Harvest in Washington

| Season | East of Cascade(%) | West of Cascade(%) | Total |
|--------|--------------------|--------------------|-------|
| 73-74 | 38 (54) | 33 (46) | 71 |
| 74-75 | 59 (70) | 25 (30) | 84 |
| 75-76 | 87 (75) | 29 (25) | 116 |
| 76-77 | 51 (66) | 26 (34) | 77 |
| 77-78 | 54 (76) | 17 (24) | 71 |
| 78-79 | 56 (80) | 14 (20) | 70 |
| 79-80 | 61 (72) | 24 (28) | 85 |
| 80-81 | 29 (78) | 8 (22) | 37 |
| 81-82 | 55 (65) | 29 (35) | 84 |
| 82-83 | 42 (66) | 22 (34) | 64 |
| 83-84 | 45 (69) | 20 (31) | 65 |
| 84-85 | 40 (51) | 39 (49) | 79 |
| Total | 617 (68) | 286 (32) | 903 |

An average of 68% (range 51-80) of the statewide harvest occurs in eastern Washington (Table 4). Cooler temperatures and associated snowfall assist hunters in locating and eventually killing lions. Indeed, during the 1984-85 season when there were unusually good snow conditions west of the Cascades, harvest distribution approached 50:50.

Similarly, during low snow years mountain lion harvest is depressed. The 1980-81 season was a low snowfall period statewide and hound hunters were unable to locate lion tracks. The resulting harvest meant that the opportunistic deer and elk hunters almost did as well bagging a lion as did the hound hunters. Hound hunters normally take approximately 70 percent or more of the lions (Table 5). The random mountain lion harvest by deer and elk hunters may be more reflective of lion status than total harvest, as houndsmen are greatly influenced by hunting conditions.

The sex ratio of harvested mountain lions (Table 6) was approximately equal (52% males) and did not vary greatly among regions in the state.

Management Programs

The mountain lion will continue to be managed as a valuable big game species in Washington. Management objectives are to maintain populations and their distribution in available habitat. Recent harvest levels appear compatible with these objectives although the distribution of this harvest is a current concern.

Sport hunting is the major pressure on lion populations and current regulatory mechanisms and over-all public attitudes will allow the species to maintain itself. Attacks by lions on domestic animals are infrequent in Washington and consequently represent a minor management concern or political force when compared to other western states. Depredating mountain lions are immobilized and relocated. Many of the 150+ biologists, wildlife control agents and wildlife agents in the field take an active role in lion management, including the tagging of pelts, the collection of biological data, the establishment of seasons and pertinent regulations and subsequent enforcement.

Table 5. Mountain Lions taken with and without hounds.

| Season | Dogs Used (%) | Dogs Not Used (%) | Total |
|--------|---------------|-------------------|-------|
| 73-74 | 50 (68) | 23 (32) | 73 |
| 74-75 | 64 (70) | 28 (30) | 92 |
| 75-76 | 85 (70) | 37 (30) | 122 |
| 76-77 | 66 (77) | 20 (23) | 86 |
| 77-78 | 54 (68) | 25 (32) | 79 |
| 78-79 | 62 (82) | 14 (18) | 76 |
| 79-80 | 61 (69) | 28 (31) | 89 |
| 80-81 | 22 (52) | 20 (48) | 42 |
| 81-82 | 75 (79) | 20 (21) | 95 |
| 82-83 | 50 (70) | 21 (30) | 71 |
| 83-84 | 57 (83) | 12 (17) | 69 |
| 84-85 | 63 (74) | 22 (26) | 85 |
| Total | 709 (72) | 270 (28) | 979 |

Table 6. Sex composition of reported mountain lion harvest in Washington.

| Season | Male (%) | Female (%) | Total |
|--------|----------|------------|-------|
| 73-74 | 39 (55) | 32 (45) | 71 |
| 74-75 | 44 (49) | 46 (51) | 90 |
| 75-76 | 70 (57) | 52 (43) | 122 |
| 76-77 | 40 (48) | 43 (52) | 83 |
| 77-78 | 34 (44) | 44 (56) | 78 |
| 78-79 | 36 (47) | 40 (53) | 76 |
| 79-80 | 48 (56) | 38 (44) | 86 |
| 80-81 | 19 (45) | 23 (55) | 42 |
| 81-82 | 52 (55) | 43 (45) | 95 |
| 82-83 | 38 (53) | 34 (47) | 72 |
| 83-84 | 36 (51) | 34 (49) | 70 |
| 84-85 | 48 (55) | 40 (45) | 88 |
| Total | 504 (52) | 469 (48) | 973 |

Research Programs

There are no currently active mountain lion research programs underway in Washington except for the continued monitoring of harvest and the writing of the Native Cat Study (P.R. fund; W-84-R) final report. Information pertaining to harvest (Study #1 Job #3), radio tracking (Study #1 Job #4) and natural history (Study #1 Job #5) will be presented at that time.